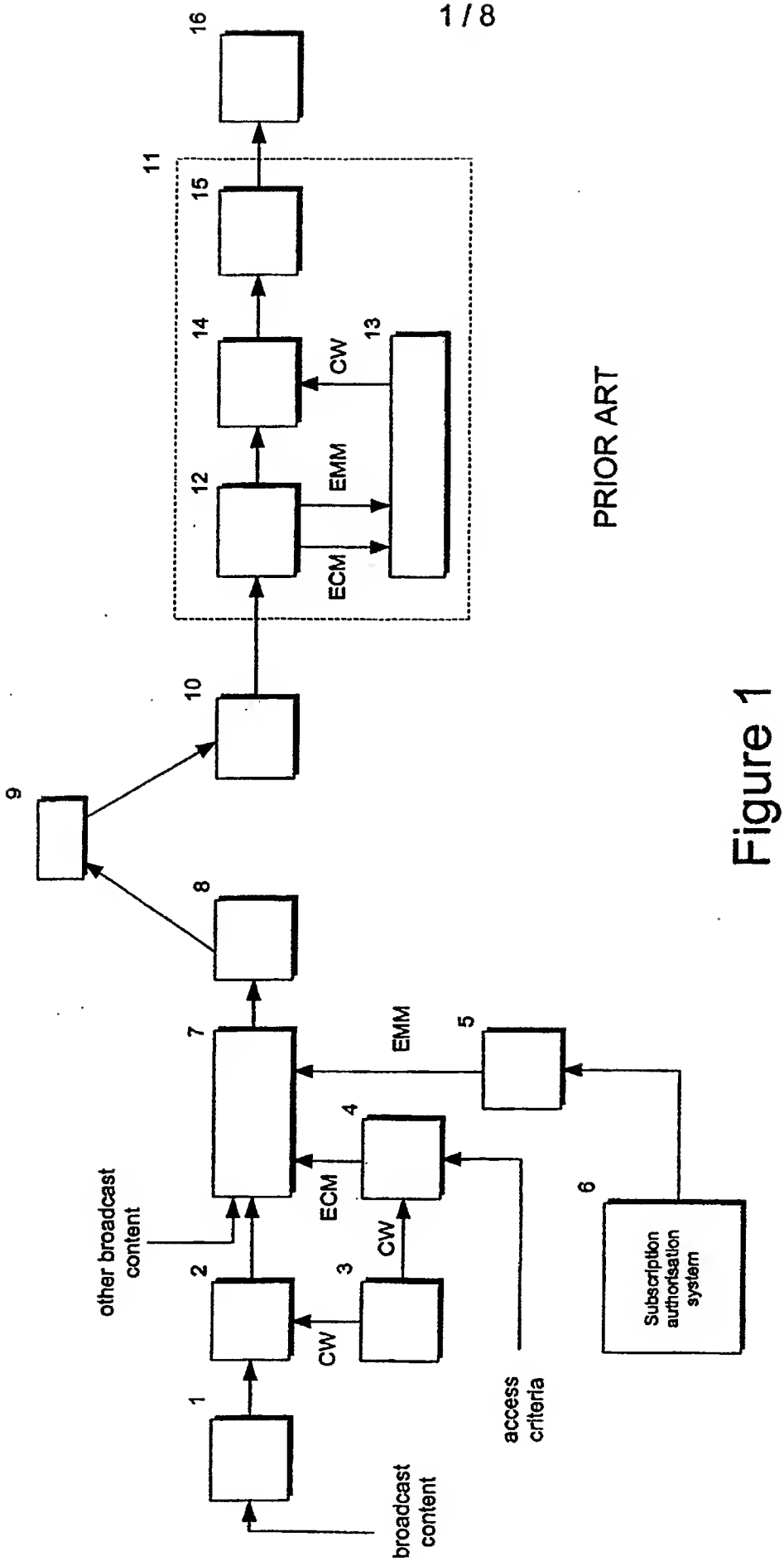

PRIOR ART

Figure 1

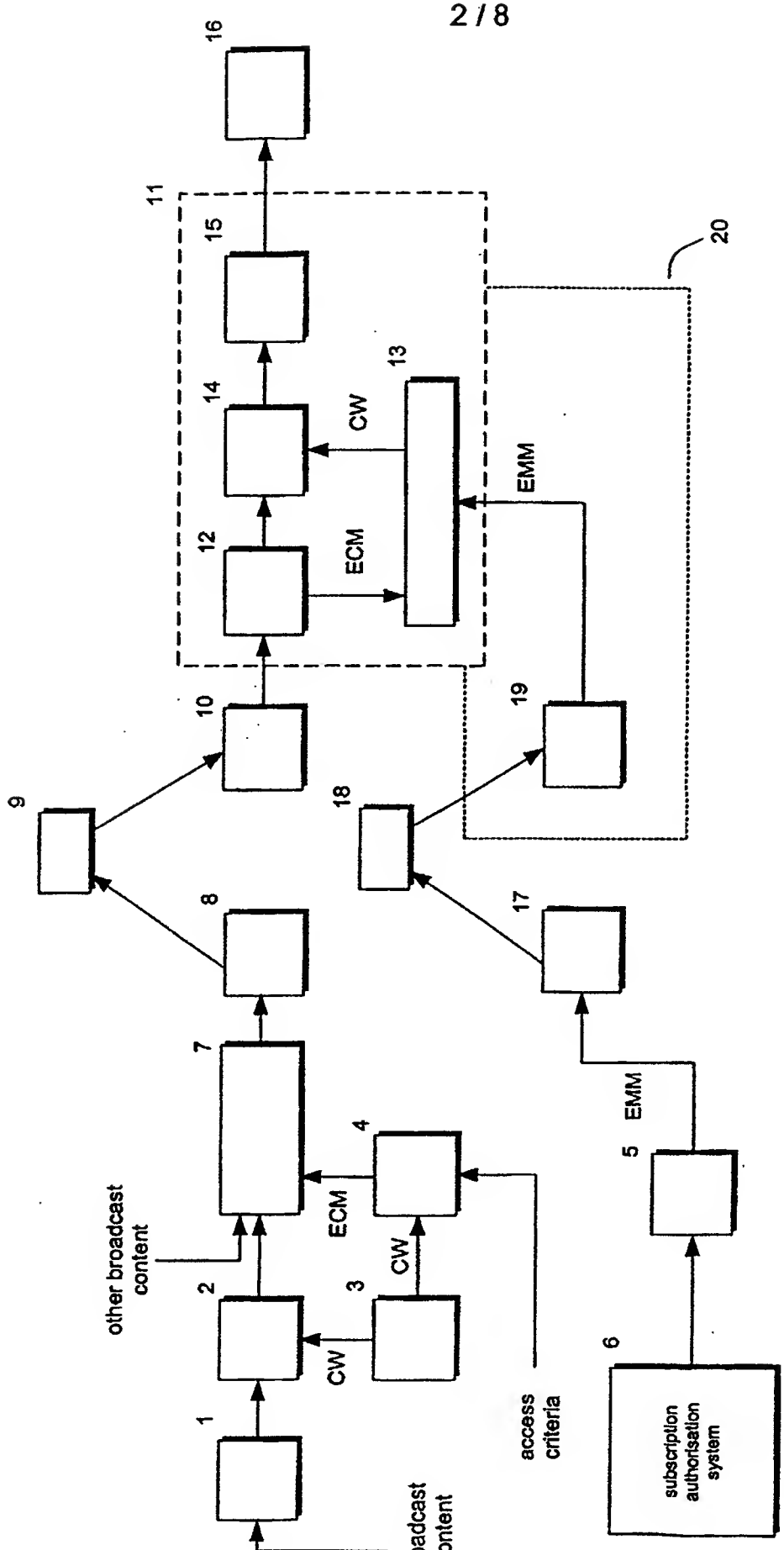
broadcast content
1
2
other broadcast content
CW
3
CW
ECM
4
access criteria
5
EMM
6
subscription authorisation system
7
8
9
10
11
12
ECM
13
CW
14
15
16
EMM
17
18
19
20

Figure 2

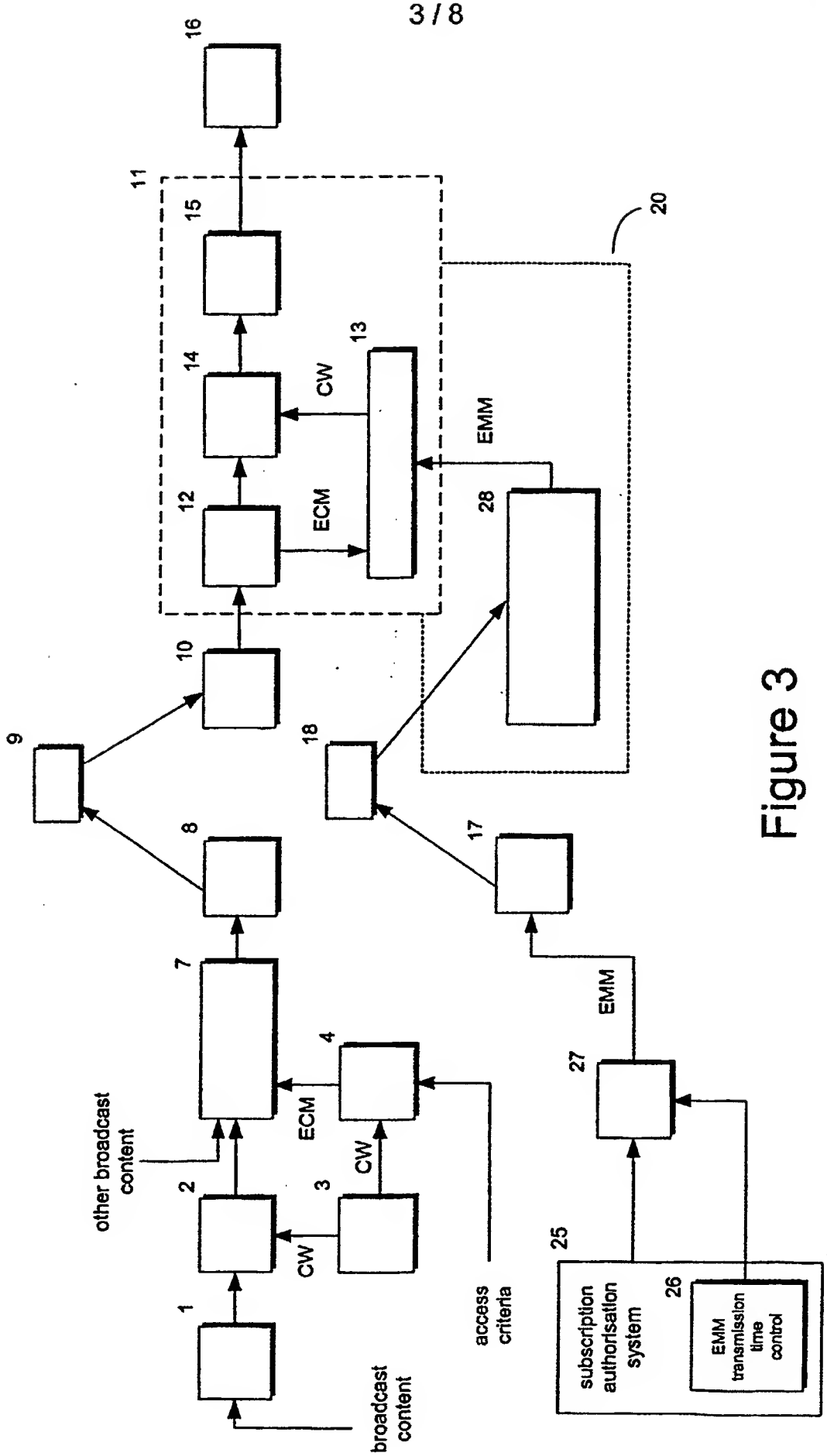
broadcast content
1
2
CW
3
CW
other broadcast content
ECM
4
7
8
9
10
11
12
ECM
13
CW
14
15
16
EMM
20
28
18
17
EMM
27
25
subscription authorisation system
26
EMM transmission time control
access criteria

Figure 3

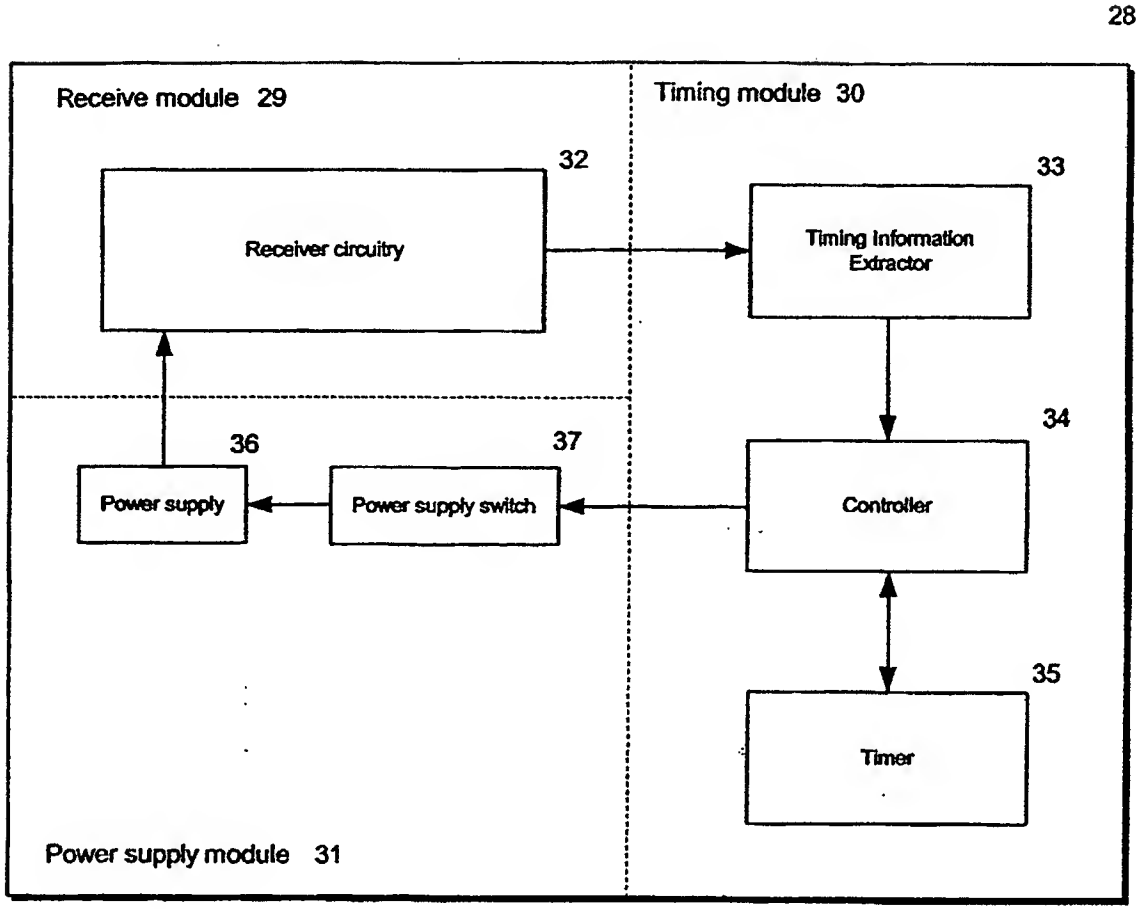
28
Receive module 29
Timing module 30
32
Receiver circuitry
33
Timing Information Extractor
34
Controller
35
Timer
36
Power supply
37
Power supply switch
Power supply module 31

Figure 4

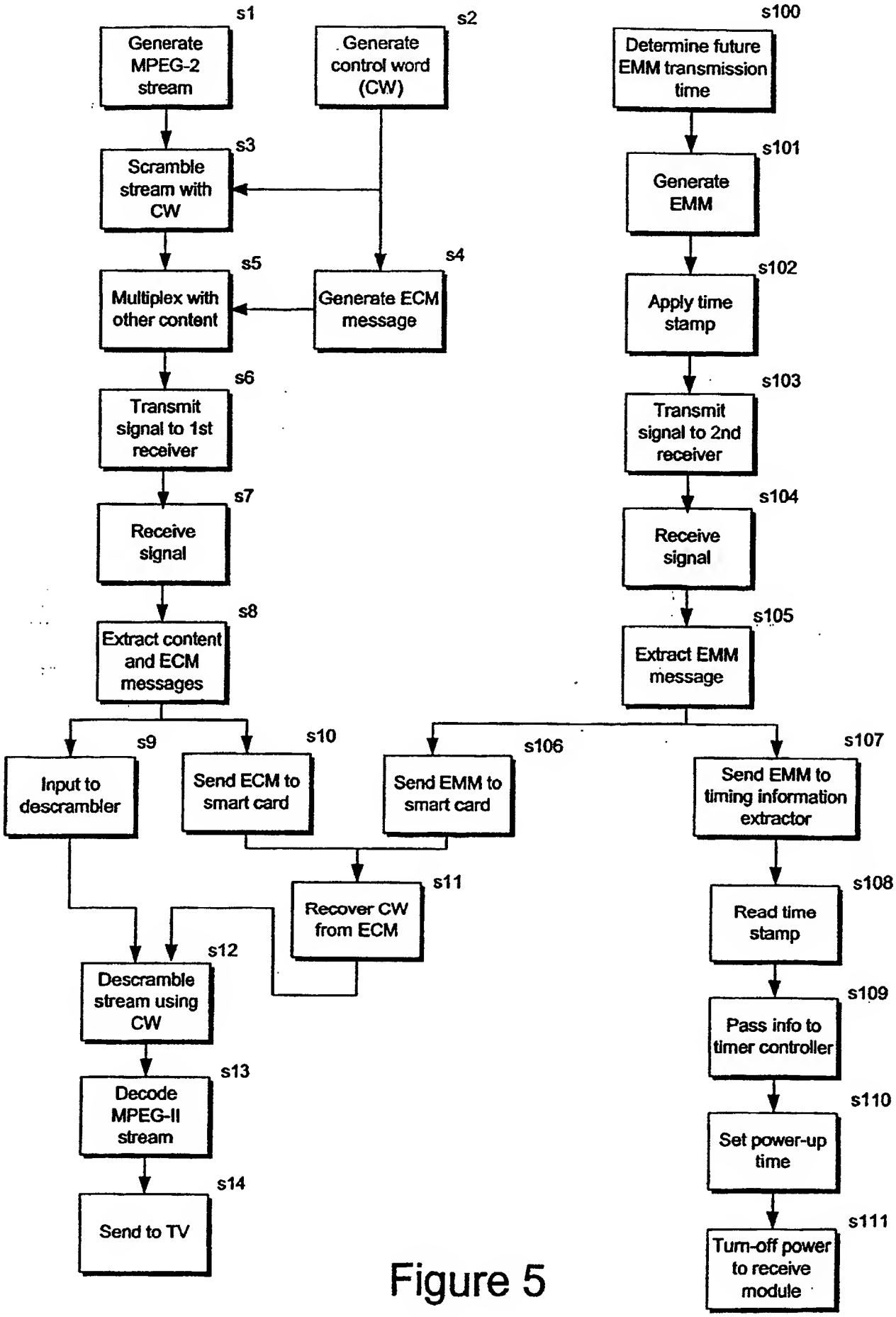
s1
Generate MPEG-2 stream
s2
Generate control word (CW)
s3
Scramble stream with CW
s4
Generate ECM message
s5
Multiplex with other content
s6
Transmit signal to 1st receiver
s7
Receive signal
s8
Extract content and ECM messages
s9
Input to descrambler
s10
Send ECM to smart card
s11
Recover CW from ECM
s12
Descramble stream using CW
s13
Decode MPEG-II stream
s14
Send to TV
s100
Determine future EMM transmission time
s101
Generate EMM
s102
Apply time stamp
s103
Transmit signal to 2nd receiver
s104
Receive signal
s105
Extract EMM message
s106
Send EMM to smart card
s107
Send EMM to timing information extractor
s108
Read time stamp
s109
Pass info to timer controller
s110
Set power-up time
s111
Turn-off power to receive module

Figure 5

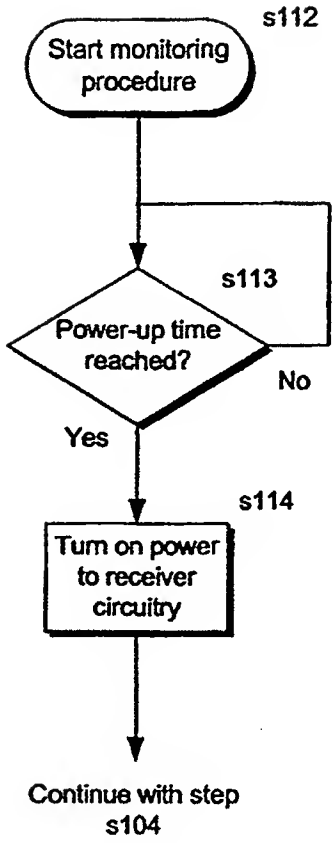
s112
Start monitoring procedure
s113
Power-up time reached?
No
Yes
s114
Turn on power to receiver circuitry
Continue with step s104

Figure 6

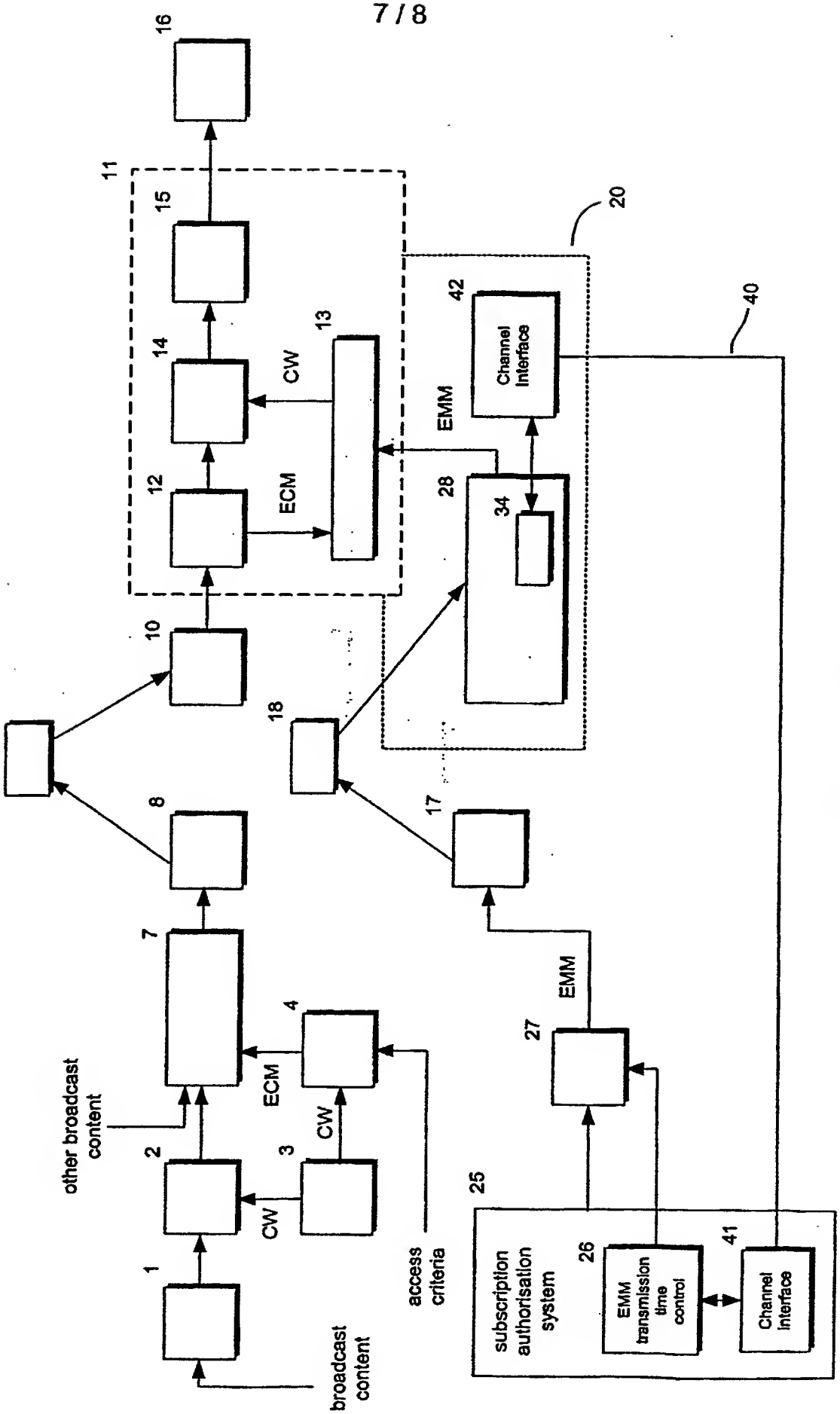
broadcast content
access criteria
other broadcast content
CW
ECM
CW
ECM
EMM
EMM
Channel Interface
Channel Interface
subscription authorisation system
EMM transmission time control
1
2
3
4
7
8
9
10
11
12
13
14
15
16
17
18
20
25
26
27
28
34
40
41
42

Figure 7

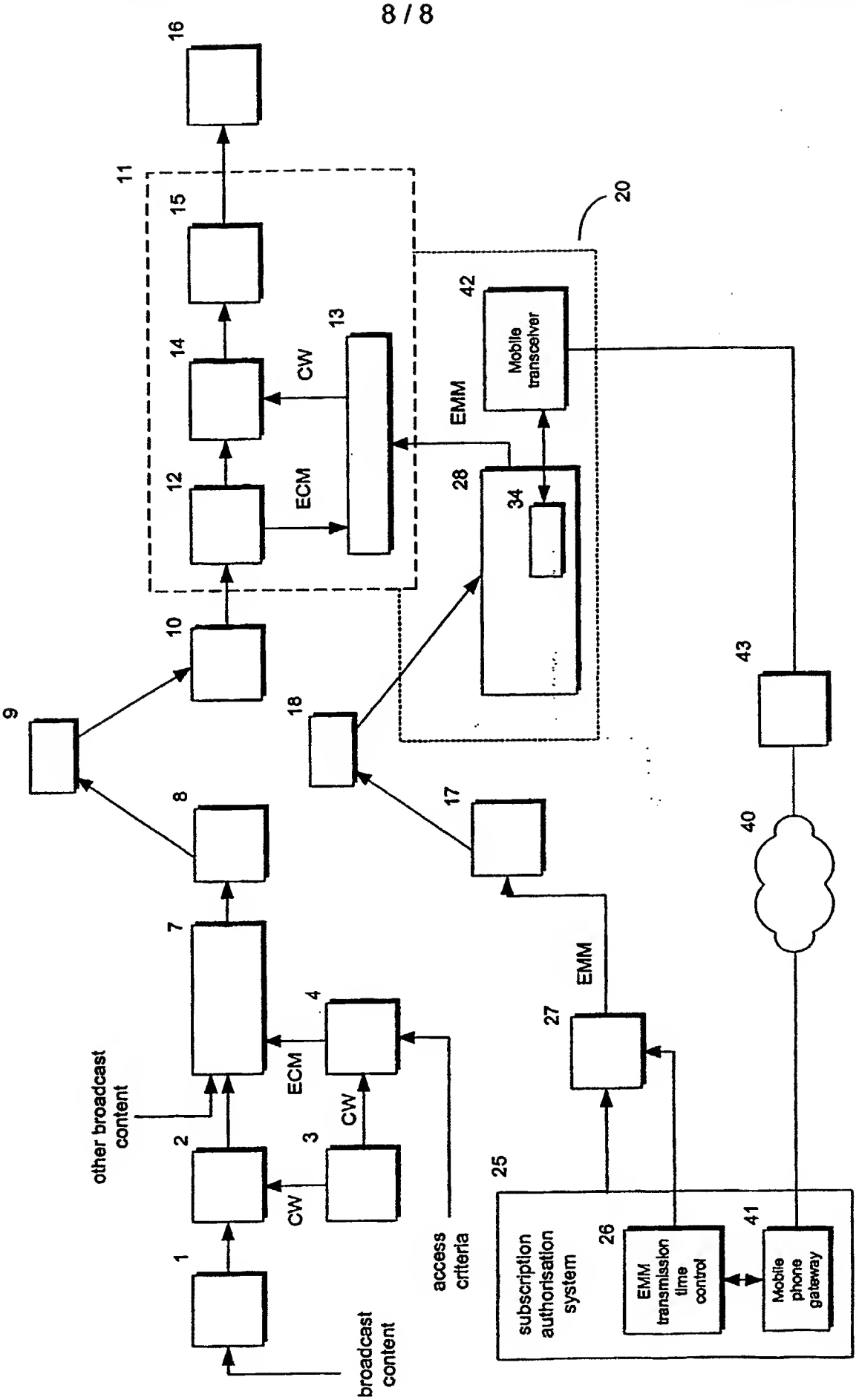
broadcast content
1
2
other broadcast content
CW
3
ECM
4
access criteria
7
8
9
10
11
12
ECM
13
CW
14
15
16
EMM
20
42
Mobile transceiver
28
34
18
17
43
40
EMM
27
25
subscription authorisation system
26
EMM transmission time control
41
Mobile phone gateway

Figure 8